

(FILE 'HOME' ENTERED AT 15:14:05 ON 21 JUN 2002)

FILE 'BIOSIS, MEDLINE, CAPLUS, EMBASE, SCISEARCH' ENTERED AT 15:14:31 ON  
21 JUN 2002

L1	1584 S ANAPHASE PROMOTING COMPLEX
L2	34042 S UBIQUITIN
L3	785 S L1 AND L2
L4	137783 S RECOMBINANT PROTEIN
L5	12 S L3 AND L4
L6	8 DUPLICATE REMOVE L5 (4 DUPLICATES REMOVED)

L6 ANSWER 7 OF 8 MEDLINE  
 AN 96217916 MEDLINE  
 DN 96217916 PubMed ID: 8632802  
 TI Cut2 proteolysis required for sister-chromatid separation in fission yeast.  
 AU Funabiki H; Yamano H; Kumada K; Nagao K; Hunt T; Yanagida M  
 CS Department of Biophysics, Faculty of Science, Kyoto University, Japan.  
 SO NATURE, (1996 May 30) 381 (6581) 438-41.  
 Journal code: 0410462. ISSN: 0028-0836.  
 CY ENGLAND: United Kingdom  
 DT Journal; Article; (JOURNAL ARTICLE)  
 LA English  
 FS Priority Journals  
 EM 199607  
 ED Entered STN: 19960715  
 Last Updated on STN: 19960715  
 Entered Medline: 19960703  
 AB Although mitotic cyclins are well-known substrates for **ubiquitin**-mediated proteolysis at the metaphase-anaphase transition, their degradation is not essential for separation of sister chromatids; several lines of evidence suggest that proteolysis of other protein(s) is required, however. Here we report the anaphase-specific proteolysis of the *Schizosaccharomyces pombe* Cut2 protein, which is essential for sister-chromatid separation. Cut2 is located in the nucleus, where it is concentrated along the short metaphase spindle. The rapid degradation of Cut2 at anaphase requires its amino-terminal region and the activity of Cut9 (ref. 14), a component of the 20S cyclosome/**anaphase-promoting complex** (APC), which is necessary for cyclin destruction. Expression of non-degradable Cut2 blocks sister-chromatid separation but not cell-cycle progression. This defect can be overcome by grafting the N terminus of cyclin B onto the truncated Cut2, demonstrating that the regulated proteolysis of Cut2 is essential for sister-chromatid separation.  
 CT Check Tags: Support, Non-U.S. Gov't  
 Amino Acid Sequence  
 Cell Division: PH, physiology  
 Cell Nucleus: PH, physiology  
 \*Chromatids  
 \*Fungal Proteins: ME, metabolism  
 Molecular Sequence Data  
 Recombinant Proteins: ME, metabolism  
 Schizosaccharomyces: CY, cytology  
 \*Schizosaccharomyces: GE, genetics  
 Schizosaccharomyces: ME, metabolism  
 CN 0 (Fungal Proteins); 0 (Recombinant Proteins)  
 L6 ANSWER 8 OF 8 MEDLINE  
 AN 95254637 MEDLINE  
 DN 95254637 PubMed ID: 7736580  
 TI A 20S complex containing CDC27 and CDC16 catalyzes the mitosis-specific conjugation of **ubiquitin** to cyclin B.  
 AU King R W; Peters J M; Tugendreich S; Rolfe M; Hieter P; Kirschner M W  
 CS Department of Cell Biology, Harvard Medical School, Boston, Massachusetts 02115, USA.  
 NC GM26875-17 (NIGMS)  
 GM39023-08 (NIGMS)  
 SO CELL, (1995 Apr 21) 81 (2) 279-88.  
 Journal code: 0413066. ISSN: 0092-8674.  
 CY United States  
 DT Journal; Article; (JOURNAL ARTICLE)  
 LA English  
 FS Priority Journals  
 EM 199506  
 ED Entered STN: 19950615

Last Updated on STN: 19950615

Entered Medline: 19950602

AB Cyclin B is degraded at the onset of anaphase by a **ubiquitin**-dependent proteolytic system. We have fractionated mitotic *Xenopus* egg extracts to identify components required for this process. We find that UBC4 and at least one other **ubiquitin**-conjugating enzyme can support cyclin B ubiquitination. The mitotic specificity of cyclin ubiquitination is determined by a 20S complex that contains homologs of budding yeast CDC16 and CDC27. Because these proteins are required for anaphase in yeast and mammalian cells, we refer to this complex as the **anaphase-promoting complex** (APC). CDC27 antibodies deplete APC activity, while immunopurified CDC27 complexes are sufficient to complement either interphase extracts or a mixture of recombinant UBC4 and the **ubiquitin**-activating enzyme E1. These results suggest that APC functions as a regulated **ubiquitin**-protein ligase that targets cyclin B for destruction in mitosis.

CT Check Tags: Animal; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.  
Anaphase: PH, physiology  
\*Cell Cycle Proteins: ME, metabolism  
\*Cyclins: ME, metabolism  
Ligases: AN, analysis  
Ligases: GE, genetics  
Ligases: ME, metabolism  
Macromolecular Systems  
\*Mitosis: PH, physiology  
Ovum  
Recombinant Proteins: PD, pharmacology  
Subcellular Fractions: ME, metabolism  
\*Ubiquitins: ME, metabolism  
Xenopus

RN 147015-50-7 (cdc27 protein)  
CN 0 (Cdc16 protein); 0 (Cell Cycle Proteins); 0 (Cyclins); 0 (Macromolecular Systems); 0 (Recombinant Proteins); 0 (Ubiquitins); EC 6. (Ligases); EC 6.3.2.- (ubiquitin-conjugating enzyme E2); EC 6.3.2.- (ubiquitin-conjugating enzyme UBC4); EC 6.3.2.19 (ubiquitin-protein ligase)